Impacts of COVID-19 on U.S. trout foodfish businesses:

Quarter 1 Results

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Authored by Carole R. Engle, Engle-Stone Aquatic$ LLC, Adjunct Faculty, Virginia Seafood AREC, Virginia Tech; Jonathan van Senten, Assistant Professor and Extension Specialist Department of Agricultural and Applied Economics, Center for Coastal Studies Affiliate Faculty, Virginia Seafood AREC, Virginia Tech; and Matthew A. Smith, Extension Specialist, The Ohio State University;

Introduction

On March 23rd, 2020 Virginia Tech Seafood AREC and The Ohio State University Extension initiated an online survey of the U.S. aquaculture, aquaponics, and allied businesses. This survey was designed to capture and quantify the effects of the coronavirus disease (COVID-19) on the aquaculture, aquaponics, and allied industries. The survey closed April 10th, 2020 at 11:59 pm. The survey will be distributed at the conclusion of every quarter for 2020, to attempt to capture the evolving impacts of COVID-19 over time.

Survey methods are detailed in the Virginia Cooperative Extension Fact Sheet VCE-AAEC-218, available at: https://www.arec.vaes.vt.edu/arec/virginia-seafood/research/Impacts_of_COVID19.html. This report is a supplemental report to the overall survey that summarizes results of **trout foodfish farm** respondents.

Results

Characterization of Trout Foodfish Respondents

Quarter 1 survey results showed that there were **14 trout foodfish farm participants**, that represents approximately 4% of the U.S. trout foodfish farmers reported in the 2018 Census of Aquaculture (USDA, 2019). Thirty-six percent of trout foodfish respondents sold their fish to a distributor, 21% sold directly to consumers, 21% to restaurants, 14% to processors, and 7% to other aquaculture/aquaponics farms (Table 1). No respondents sold to grocery stores or supermarkets.

Table 1. Primary marketing channel for trout foodfish respondents.

Category	Percentage
Distributors	36%
Direct to consumer	21%
Restaurants	21%
Processor	14%
Other aquaculture farms	7%
Grocery stores/supermarkets	0%

Trout foodfish farms vary in terms of their production scale. Respondents to the survey included those with scales of production from sales of $100,000 to $250,000 a year up to those with annual sales greater than $1 million (Table 2). The greatest percentage (29%) of respondents had

sales in the range of either $100,000 to $250,000 or greater than $1 million (29%), followed by 14% each that sold from $250,000 to $500,000 and $500,000 to $1 million, or did not respond to this question.

Table 2. Scale of trout foodfish respondent farms/businesses.

Category	Percentage
$100,001 - $250,000	29%
> $1 million	29%
$250,001 - $500,000	14%
$500,000 - $1 million	14%
No response	14%
$1 - $1,000	0%
$1,001 - $5,000	0%
$5,001 - $10,000	0%
$10,001 - $25,000	0%
$25,001 - $50,000	0%
$50,001 - $100,000	0%

The greatest percentage of trout foodfish farm respondents (43%) were located in the Western Aquaculture Region, followed by the North Central Aquaculture Region (36%), the Northeastern Aquaculture Region (14%), and the Southern Aquaculture Region (7%) (Table 3). There were no respondents from the Tropical and Sub-tropical Aquaculture Region. (Table 3).

Table 3. Participation by aquaculture region.

Category	Percentage
Western Aquaculture Region	43%
North Central Aquaculture Region	36%
Northeastern Aquaculture Region	14%
Southern Aquaculture Region	7%
Tropical and Sub-tropical Aquaculture Region	0%

Key Findings

All (100%) trout foodfish respondents reported that their farm or business had been impacted by the COVID-19 pandemic. When asked whether their farm or business would survive the next 3 months without external intervention (such as government assistance), only 36% said, “yes.” Fifty-seven percent reported that their farm or business would “maybe” survive 3 months without external assistance, and 7% said that their farm or business would not survive 3 months without external assistance. When asked the same question, but for the next 6 months, 14% said that it would survive, 57% said “maybe,” and 29% said that their farm/business would not survive the next 6 months without external assistance. Responses related to 12 months without external assistance were that 57% indicated that they would not survive, 29% said that their farm or business would “maybe” survive, and only14% said that they would survive.

Lost Sales

All (100%) trout foodfish farm respondents indicated that they had lost sales due to the COVID-19 outbreak. In addition, 21% of trout foodfish respondents indicated that they had lost sales to international or export markets outside the U.S. In terms of the volume of sales that had been lost, 29% reported losses in the range of $10,001 to $25,000. An additional 14% of respondents that they lost either $250,001 to $500,000, greater than $1 million, or that they could not estimate the losses at this time. Seven percent of respondents reported sales losses of either $5,001 to $10,000, $25,001 to $50,000, $50,001 to $100,000, or $500,001 to $1 million. Those respondents that reported losses greater than $1 million reported losing $360,000/month and $4 million per month.

The lost sales reported included canceled contracts of various sorts. All (100%) trout foodfish respondents reported losing private contracts for sales, and 21% reported losing government (state or federal) contracts for sales. One respondent reported being the sole supplier of trout for the food industry in a state in which all restaurants had been closed. Thus, this farm has not had any sales for 4 weeks.

Respondents were further asked what challenges they expected to experience on their farms or businesses as a result of the coronavirus pandemic in 2020. All (100%) of trout foodfish respondents indicated that they expected to lose sales, with 21% expecting to lose international markets. In terms of the volume of sales expected to be lost, 29% expected to lose from $50,001 to $100,000, 14% each expected to lose from $10,001 to $25,000, $250,001 to $500,000, $500,001 to $1 million, or could not estimate the losses at this time. Another 7% of respondents expected to lose from $100,001 to $250,000 or greater than $1 million.

When asked how long trout foodfish respondents thought their farm or business could survive without sales before suffering longer term cash flow effects, 36% said less than 1 month, 29% said 1 to 3 months, and 14% each said 4 to 6 months and 7 to 10 months, with 7% not responding to this question. It should be noted that some respondents completed the survey four weeks prior to the preparation of this report.

Labor

Forty-three percent of respondents reported that they had laid off employees as a result of the COVID-19 pandemic and another 43% indicated that they "will have to soon." Only 14% had not laid off and were not expecting to lay off employees "soon". In terms of the number of employees laid off, 83% of trout foodfish respondents indicated that they had laid off 1 to 3 employees. Another 17% had laid off from 11 to 15 employees. One respondent reported having laid off approximately 200 employees. The lost sales of processed fish required the business to lay off employees.

Respondents were further asked how many weeks it would be before they would have to lay off employees. Fifty percent of trout foodfish respondents indicated that they would have to decide within 1 to 3 weeks whether to lay off employees. Thirty-three percent said that they had from 4 to 6 weeks to decide whether to lay off employees, and 17% said that they had less than 1 week to make that decision. It should be noted that data collection for the survey was open for a period of 3 weeks. Trout foodfish respondents were further asked how many employees they would

need to lay off at that time. One-third (33%) said that they would have to lay off from 1 to 3 and from 4 to 6 employees, and 17% said that they would have to lay off from 11 to 15 and more than 20 employees. Of those employees who had been laid off, 25% of trout foodfish respondents indicated that these were "Short-Time" or "Shared-Work" employees. Seventeen percent did not respond to this question.

Fifty percent of trout foodfish respondents had experienced some type of labor challenge. Employees were reported to have missed work due to the COVID-19 pandemic. Thirty-six percent of trout foodfish respondents indicated that employees had missed work, while 64% reported that employees had not missed work due to the coronavirus. Of those respondents who reported employees missing work, 60% reported 4 to 6 lost days, 20% 7 to 10 lost days, and 20% 11 to 14 lost days. Those who missed work included those who were ill but also included instances of self-quarantine for symptoms that turned out to not be COVID-19. Both types of reasons resulted in full loss of an employee for a week or more.

Several respondents commented on other aspects of labor shortages. Respondents indicated that their farm or business was not able to hire seasonal employees due to COVID-19. Others could not hire seasonal workers needed to keep the business functioning properly, due to lack of revenue. In addition, construction work has been halted as a nonessential activity. Another respondent commented that the effects on labor were unknown in that the rate of sickness may cause a manpower shortage or the poor condition of the economy may make workers more available. Others expected to have increasing labor shortages due to employees missing work because of illness or self-quarantine.

Challenges to the Farm or Business

Trout foodfish farm respondents reported a variety of different challenges to the business that included production challenges not related to labor, increased costs, the cascading effects of holding market-ready product for extended periods of time, lower farm-gate prices, and financial services. Fifty percent of trout foodfish respondents expected to experience production challenges not related to labor. Forty-three percent of trout foodfish respondents reported increased costs of production, including feed, and 7% reported other types of challenges, including lower farm-gate prices for trout with decreased overall demand.

Production challenges not related to labor focused mostly on having sufficient cash to pay workers and suppliers, with several comments related specifically to limited cash restricting feed purchases. Concern was expressed about obtaining fish eggs. Another respondent mentioned the cascading effects of processors not buying fish that leads farmers to reduce feeding to maintain trout in a marketable size range, that eventually will stress fish and may lead to disease outbreaks. Increased costs were reported from having to hold fish on maintenance diets when the fish needed to be moved to growout facilities.

Forty-three percent of respondents indicated that they could hold market-ready product for less than a month and another 43% said from 1 to 3 months before it would interfere with stocking of future crops. Only 7% reported being able to hold market-ready product for 4 to 6 months or for more than 10 months before it would interfere with stocking the next crop.

Challenges related to production inputs (feed, therapeutants, etc.) were reported by 63% of trout foodfish respondents. One respondent mentioned the challenge of getting supplies such as sanitizers, gloves, and masks needed for sanitization of the facility and for the safety of their personnel. Additional production challenges reported by trout foodfish farm respondents included: financial services (63%), and challenges with repair, construction, consulting, or engineering services (50%). Other comments were related to having to put all repair and construction projects on hold and limitations on availability of cash for discretionary projects and repairs. Another respondent mentioned that the shutdown happened when they were near the end of renovating their restaurant and building a hatchery this year.

Financial services challenges mentioned by respondents reflected growing concerns by lenders over the uncertainty of the sector. Respondents indicated that concerns by lenders may result in the unwillingness of banks to make short-term working capital available; other respondents indicated that they had been unable to take out bank loans. One respondent reported that they had already reached the maximum on their operating loan, while another said that they would have difficulty paying for the lease on the farm. Another respondent reported that the combination of their construction loan, rent, insurance, and taxes would be unbearable with the lost restaurant sales income.

In terms of expectations for the coming months, all (100%) trout foodfish respondents expected lost sales, 64% expected labor challenges, 50% expected a variety of production challenges, and 43% expected increased costs of production. The expected on-going cash flow problems were reported to continue to create problems in terms of purchasing production inputs, especially feed, but also fish eggs. The cash flow problems will be especially devastating for small businesses. Expenses have continued for electricity, insurance, mortgages, and other expenses, but without sales, the cash flow problems have become severe. Several respondents expect costs to increase across the board, but especially for feed and electricity. Others mentioned that the cost of logistics to acquire inputs will increase. One respondent pointed out that, even though they are reducing feed to maintain the size of the fish, they still have to pay bills for feed, utilities, and facility costs, thus increasing the cost per pound. Eventually the loss of feed will reduce flesh quality. The situation is exacerbated by the fact that processor freezers are full of product and processors are no longer purchasing fish from outside farms that typically are smaller, independent farms.

The lack of cash has resulted in all improvement projects being put on hold. One respondent commented that there would be a decrease of products due to fee fishing stockings and farmers markets. On-going problems with paying facility leases are expected. Another respondent pointed out that lenders are less likely to work with farms that are showing signs of financial struggles, underscoring the difficulty of obtaining emergency funds. On-going shortages of protective gear for employees, such as hand sanitizer, gloves, and face masks were expected to continue to be of concern.

Marketing of Products

Extended holding of product that is ready to be sold can cause problems associated with planting new crops for subsequent years. Eighty-six percent of trout foodfish respondents indicated that

holding market-sized product would make it less marketable. More specifically, two-thirds of trout foodfish respondents said that holding product would both reduce the quantity of trout sold and the price received. Some farms will be unable to stock the next crop and others expect greater mortalities from attempting to hold the fish for long periods of time. Another respondent pointed out that fish held too long before harvest may become off flavor.

Respondents reported various effects from the loss of restaurant shutdowns that resulted in loss of sales. Market demand for trout has been based on certain sizes of fish. However, it is difficult to keep fish healthy without any growth. Thus, it is likely that fish will get too large to be marketable. One respondent mentioned that, with the reduced numbers of orders, they are individually flash freezing fillets, but have limited freezer capacity for storage. Thus, they have been looking to sell more fresh product. If they cannot process enough fish, the supply will back up on farms, creating quality issues. Without putting new eggs in the hatch houses, there will be a gap of reduced supply about 14 months from now.

The combination of the lack of sales and increased inventories will likely lead to reduced prices, especially to sell fish larger than what customers want. Even premium, flash frozen product in individually vacuumed sealed packs sells for less right now. Another respondent reported that without fee fishing and farmers markets, there would not be any sales. With decreased demand for seafood, and low consumer confidence, prices will have to be reduced to stimulate sales in the near future. One respondent indicated that they would sell at any price or even donate product rather than composting it.

Increased Demand for Products

No trout foodfish respondents reported any increased demand for their products, but 14% responded that they expected some increased demand for their products. Of these, half reported expecting an increase in demand in the range of $10,001 to $25,000.

Assistance to Farms/Businesses

The survey included questions on the types of assistance that might be helpful to the farm or business of respondents. Seventy-one percent of trout foodfish respondents indicated that federal assistance would increase the likelihood of survival of their farm or business. Fifty percent said that assistance from the state, 43% from associations, and 29% from local government would be helpful.

When asked more specifically what types of assistance would be helpful, 43% said that identifying new markets, 36% said loan guarantees, 36% said specialty crop insurance, 29% said waiving or delaying state fees, and 7% that tariff relief would be helpful. When asked if there were existing programs for which their farm or business does not currently qualify that would be of assistance during the pandemic, only 14% said, “Yes,” with 7% saying, “No,” and 79% did not respond to this question.

Additional comments by trout foodfish respondents included a variety of suggestions on the type of assistance that would be of greatest help (Table 4). All trout foodfish respondents indicated the need for some type of very immediate financial assistance, with mention of low-interest loans, debt forgiveness, working capital, operating loans, exemption of interest payments. The

second-most frequent comments (72% of respondents) were related to grants and cash payments for major expenses such as feed and utilities were mentioned most often.

Table 4. Additional comments related to types of assistance reported by trout respondents that would be most useful.

Type of assistance	Trout respondents (%)
Financing assistance (guaranteed loans, debt forgiveness, deferred loan payments, exemption of interest, low-interest loans)	100%
Cash payments, grants, credits, for expenses	72%
Marketing and distribution assistance	50%
Employee assistance (match state funds for out-of-work employees)	21%
Other (advocating for aquaculture so it is not overlooked in relief and stimulus packages)	21%
Government purchases of trout	7%

Half the trout foodfish respondents indicated that they needed assistance with marketing and distribution. Several respondents suggested that food distributors are nimble enough to pivot and change directions. This respondent reported that they have a fleet of trucks with national routes that can be used to deliver product directly to retailers, hospitals, and government. Others also mentioned that they can truck it, but do not know where and need assistance identifying places that need food. Others mentioned the need for a nation-wide program to educate chefs. Some key points of education would include that a properly frozen fish can be equal quality to fresh fish and that they need to utilize the product that has had to be frozen due to shutdowns, while they await the next fresh crop that will take months to grow. Another suggestion was to mount a major campaign to educate people on how to cook seafood so that processors will not be so dependent on restaurant sales. U.S. consumers would benefit from paying reasonable prices for healthy seafood. One respondent indicated that, if they are denied their traditional markets by government shut-down orders, that the government then needs to help them figure out what to do with the product.

Additional suggestions were made to provide assistance through increased federal purchases of trout products to distribute to food banks, for the military, and for First Nation reservations. Twenty-one percent of respondents indicated the need for employee assistance and “other” efforts such as advocating for aquaculture so that it is not overlooked in the relief and stimulus packages. An additional 7% of respondents indicated that government purchases of trout would be helpful.

Limitations to several government programs were mentioned. One comment was that the FSA programs do not pay enough for disease losses to justify completing the application, while the other FSA disaster programs only cover environmental disasters. In addition, one respondent mentioned that SBA loans are based on gross, instead of net sales with too low a cap on gross sales to qualify. Also, eliminating the SBA affiliate rule would be helpful.

Discussion and Conclusion

Responses by trout foodfish farms to the Quarter 1 survey show that the U.S. trout foodfish farmers have been impacted severely by the COVID-19 pandemic. All trout foodfish respondents had had sales orders from private companies canceled and 21% had had government (state/federal) orders canceled, with losses reported as high as $4 million per month. While lost sales were the immediate impact, other challenges were mentioned related to increasing production costs, financing, and other essential services that are critical to survival of the farm or business. **Of grave concern is that only 36% of trout foodfish respondents indicated that their farm or business would survive the next 3 months without external assistance.** There is a critical need to find solutions for the challenges identified by trout foodfish farms. Given that survey results showed that there will be longer-term effects on the U.S. trout industry (only 14% of respondents indicated they were confident of surviving 12 months without external intervention), it will be important to continue to monitor changes throughout the year.

Key findings from trout foodfish farm respondents include:

- 100% have been impacted by COVID-19
- 100% have had orders/contracts canceled
- 86% have or will soon have to lay off employees
- 100% have experienced lost sales
- 36% can survive 3 months without external intervention

References

United States Department of Agriculture. 2019. 2018 Census of Aquaculture. National Agricultural Statistics Service, USDA, Washington, District of Columbia, USA.